

| SHEET NO. | TOTAL SHEETS | AS BUILT |
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| 1 | 3 | |



**PINAL COUNTY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

**FLORENCE-KELVIN HIGHWAY
BOX O WASH EROSION PROTECTION**

PINAL COUNTY PROJECT NO. 60640578

AUGUST 1, 2016

PINAL COUNTY BOARD OF SUPERVISORS

DISTRICT 1 - PETE RIOS
DISTRICT 2 - CHERYL CHASE
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COUNTY MANAGER - GREG STANLEY, P.E.
COUNTY ENGINEER - SCOTT BENDER, P.E.
PUBLIC WORKS DIRECTOR - LOUIS ANDERSEN

INDEX OF SHEETS

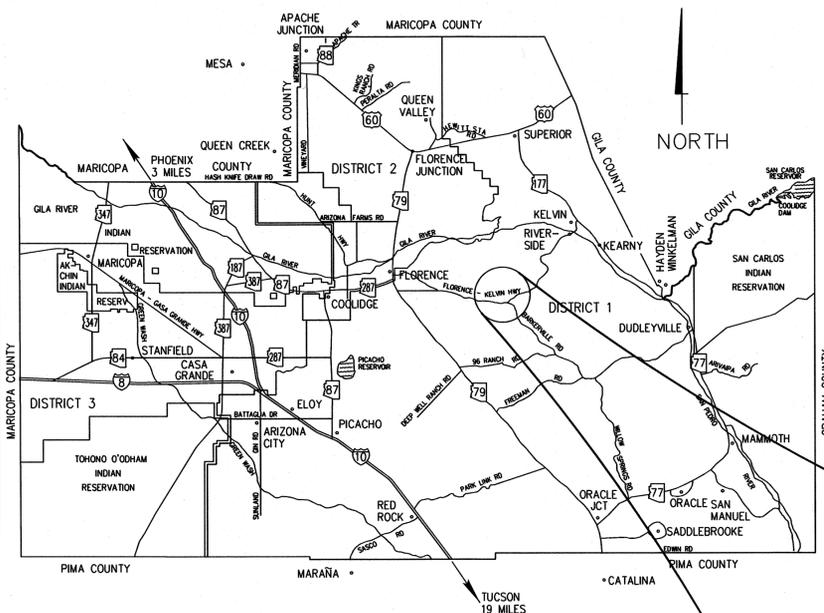
| SHEET NO | DWG NO | SHEET TITLE |
|----------|-----------------|---------------------------|
| 1 | G-1.01 | COVER SHEET |
| 2 - 3 | A-1.01 & A-1.02 | EROSION PROTECTION DETAIL |

AS BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE RECORD DRAWING MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR _____ DATE _____

REGISTRATION NUMBER _____



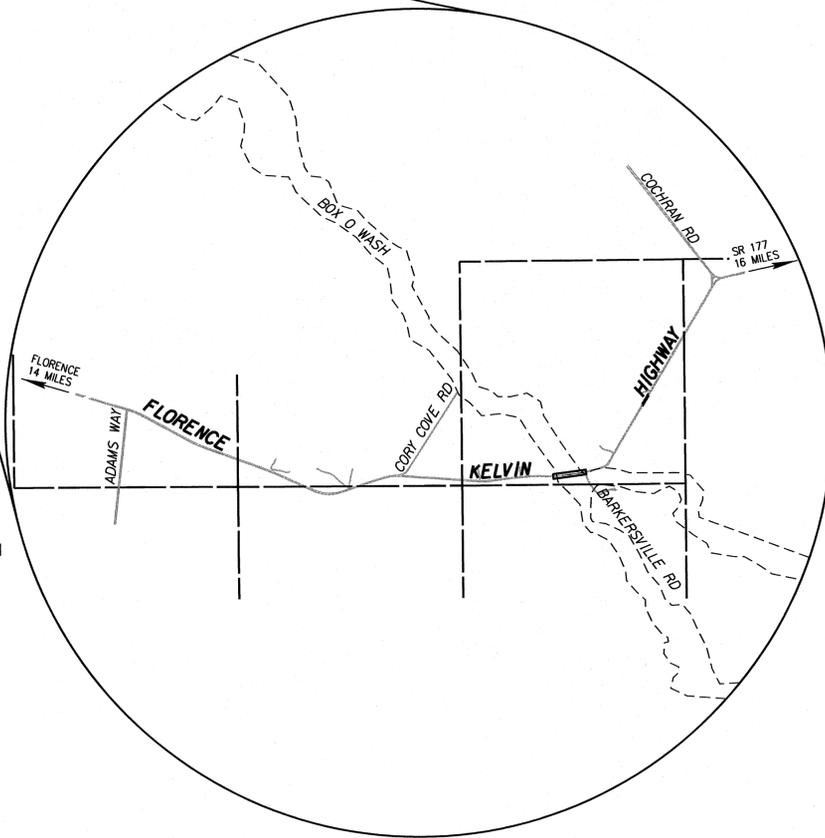
PINAL COUNTY
NTS

Utility Coordination Block

| Utility Company | Submitted |
|----------------------------|-----------|
| None within Project Limits | N/A |

GENERAL NOTES

- Unless specifically noted on plans, all work shall conform to: Maricopa Association of Governments (MAG) Uniform Standard Specifications for Public Works Construction dated 2012 and current revisions
Arizona Department of Transportation (ADOT) Standard Specifications for Road and Bridge Construction 2008 and current revisions
- The information on these drawings showing the type, size and location of existing utilities is based on the best information available. It is the contractor's responsibility to determine their exact location and protect all utilities that are to remain, unless otherwise noted or specified.
- The contractor shall be responsible for contacting Blue Stake (telephone 1-800-782-5348) to insure all utilities are properly marked prior to digging.
- The coordinates, bearings and bench marks used for the project are based upon the control survey by Dibble Engineering.
Benchmark: See Survey Control Sheet
Basis of Bearing: Grid North
- All station and call out distances left and right refer to the construction centerline.
- Exact point of matching, termination and overlay may be adjusted in the field by the engineer if necessary.
- The contractor shall maintain utility services and drainage without interruption through out this contract.
- The contractor shall coordinate with the local U.S. Postal Office when relocating mailboxes interfering with construction.
- Elevations shown on plan are to finished grade, unless otherwise noted or specified.
- The contractor shall verify control survey and all bench mark elevations before using them for construction.
- Traffic control and barricading shall be according to the 2009 Manual on Uniform Traffic Control Devices and current revisions or Pinaleño County requirements.
- Any work done in a drainage channel or wash must comply with state and federal regulations.



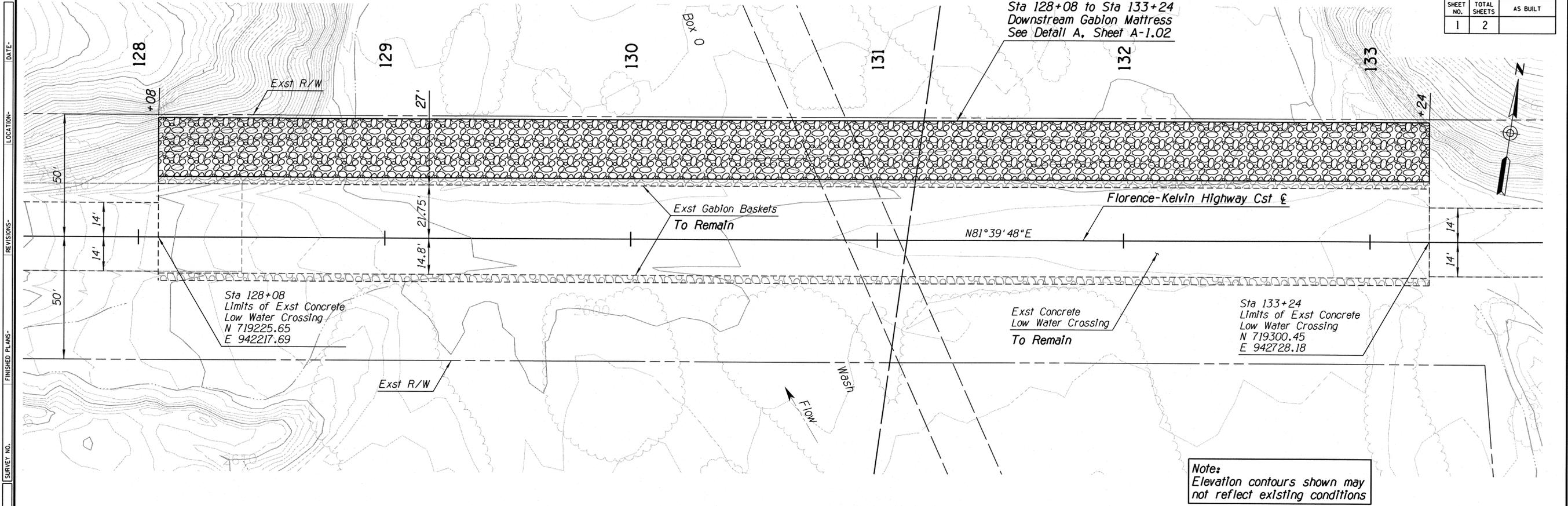
APPROVED BY

Scott E. Bender
PINAL COUNTY ENGINEER
PINAL COUNTY, DEPARTMENT OF PUBLIC WORKS

8/24/2016
DATE



| | | |
|---------------|---------------|----|
| AS BUILT DATA | AS BUILT DATE | OF |
|---------------|---------------|----|



| SHEET NO. | TOTAL SHEETS | AS BUILT |
|-----------|--------------|----------|
| 1 | 2 | |

Note:
Elevation contours shown may not reflect existing conditions

GENERAL NOTES:

- Unless specifically noted on plans, all work shall conform to:
Maricopa Association of Governments (MAG) Uniform Standard Specifications for Public Works Construction dated 2015 and current revisions

Arizona Department of Transportation (ADOT) Standard Specifications for Road and Bridge Construction 2008 and current revisions
- The information on these drawings showing the type, size and location of existing utilities is based on the best information available. It is the contractor's responsibility to determine their exact location and protect all utilities that are to remain, unless otherwise noted or specified.
- The contractor shall be responsible for contacting Blue Stake (telephone 1-800-782-5348) to ensure all utilities are properly marked prior to digging.
- The coordinates, bearings and bench marks used for the project are based upon the control survey by Dibble Engineering, prepared for Pinal Co. project No. 60651200
Benchmark: See Survey Control Sheet - Refer to Pinal Co. project No. 60651200
Basis of Bearing: Grid North
- All station and call out distances left and right refer to the construction centerline.
- Exact point of matching and termination may be adjusted in the field by the engineer if necessary.
- The contractor shall maintain utility services and drainage without interruption throughout this contract.
- Elevations shown on plan are to finished grade, unless otherwise noted or specified.
- The contractor shall verify control survey and all bench mark elevations before using them for construction.
- Traffic control and barricading shall be according to the 2009 Manual on Uniform Traffic Control Devices and current revisions or Pinal County requirements.
- Any work done in a drainage channel or wash must comply with state and federal regulations.

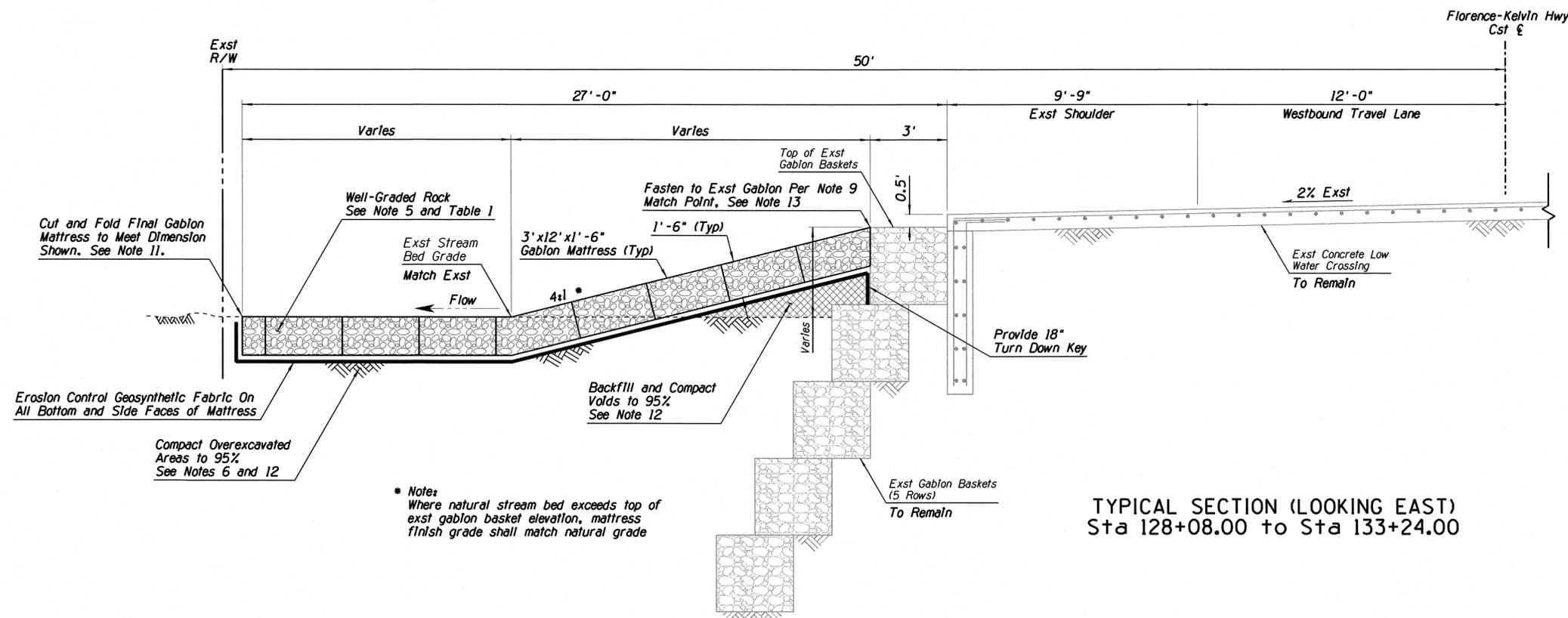
DETAIL A

BOX 0 WASH EROSION PROTECTION
SHEET 1 OF 2

| | | | | |
|---------------------------|---------------|------|--|--|
| DESIGN | J. Papworth | 1/16 | PINAL COUNTY DEPARTMENT OF PUBLIC WORKS PROJECT NO. 60640578 DETAIL SHEET DETAIL A | |
| DRAWN | D. Burmeister | 1/16 | | |
| CHECKED | P. Balch | 1/16 | | |
| Dibble Engineering | | | LOCATION FLORENCE-KELVIN HIGHWAY, BOX 0 WASH EROSION PROTECTION DWG No. A-1.01 | |

SURVEY NO. FINISHED PLANS. LOCATION. DATE. REVISIONS. LOCATION. DATE.

| | | |
|-----------|--------------|----------|
| SHEET NO. | TOTAL SHEETS | AS BUILT |
| 2 | 2 | |



TYPICAL SECTION (LOOKING EAST)
Sta 128+08.00 to Sta 133+24.00

GABLON MATTRESS NOTES:

- The work shall consist of furnishing, assembling and installing rock filled wire mesh gablon mattresses. Mattresses shall consist of wire mesh formed containers, rectangular in shape, filled with rock, the wire mesh shall be non-ravelling triple twisted hexagonal, consisting of two wires twisted together in three 180 degree turns.
- Mattresses shall have a thickness of 18 inches.
- Mattresses shall be fabricated within a dimension tolerance of plus or minus 5 percent, except that the mattress height shall be within 10 percent.
- Materials
 - Wire (zinc coated):
Wire for fabrication and assembly shall be zinc coated and have a minimum tensile strength of 75,000 psi. Quantities of zinc will be according to ASTM A641/A641M-03, Class III soft temper coating. The adhesion of the zinc coating will be in accordance with ASTM A641/A641M-03.
 - Galvanized (zinc coated) woven wire mesh gablon mattress (18" height):
8x10 mesh type
Mesh wire: diameter - 0.120 in.
Selvedge wire: diameter - 0.153 in.
Mesh opening: nominal dimension 3.25 in.
Mesh tensile strength shall have a minimum strength of 3500 lb/ft when tested in accordance with ASTM A975 Section 13.1.1
Punch test resistance shall have a minimum resistance of 6000 lb when tested in accordance with ASTM A975 Section 13.1.4
Connection to selvedges shall have a minimum resistance of 1400 lb/ft when tested in accordance with ASTM A975.
Lacing wire: diameter - 0.087 in
Cross tie/stiffener wire: diameter - 0.087 in
Preformed stiffeners: diameter - 0.153 in
- Erosion control geosynthetic fabric (filter fabric) shall conform to the requirements of Type A, Table 796-3 in MAG Section 796.

| GABLON MATTRESS HEIGHT | D50 INCHES | MINIMUM ROCK DIMENSION INCHES | MAXIMUM ROCK DIMENSION INCHES |
|------------------------|------------|-------------------------------|-------------------------------|
| 18 INCH | 6 | 4 | 8 |

(Fabric must be keyed in as shown and overlapped per manufacturer's recommendation)

- Rock shall conform to the quality requirements of MAG Section 703. The rock shall be hard, angular to round, durable and of such quality that they shall not disintegrate on exposure to water or weathering during the life of the structure. Gablon rocks shall range between 4 in. (10.16 cm) and 8 in. (20.32 cm). The range in sizes may allow for a variation of 5% oversize and/or 5% undersize rock, provided it is not placed on the gablon exposed surface. The size shall be such that a minimum of two layers of rock must be achieved when filling the gablons.
- The foundation on which the gablons and erosion control geosynthetic fabric are to be placed shall conform to requirements of MAG Section 220.
- Orientation - Place gablon mattresses such that 12' dimension is perpendicular to flow direction.
- Assembly - Rotate the gablon panels into position and join the vertical edges with fasteners for gablon assembly. Wrap lacing wire with alternating single and double half-hitches at intervals between four (4) to five (5) inches. Use the same fastening procedures to install interior diaphragms where they are required. Interior diaphragms shall be installed to assure that no open intervals are present that exceed two (2) feet.
- Placement - Place the empty gablons on the foundation and interconnect the adjacent gablons along the top, bottom, and vertical edges using lacing wire. Wrap the wire with alternating single and double half-hitches at intervals between four (4) to six (6) inches. Lacing wire shall be used as needed to supplement the closing of lids.
- Interconnect each layer of gablons to the underlying layer of gablons along the front, back, and sides. Stagger the vertical joints between the gablons of adjacent rows and layers by at least one-half of a cell length.
- Filling operation - After adjacent empty woven wire gablon units are set to line and grade and common sides properly connected, they shall be placed in straight line tension and stretched to remove any kinks from the mesh and to gain a uniform alignment. Staking of the gablons may be done to maintain the established proper alignment prior to the placement of rock. No stakes shall be placed through geotextile material. The gablons shall be carefully filled with rock, either by machine or hand methods, maintaining alignment, avoiding bulges, and providing a compact mass that minimizes voids. Machine placement will require supplementing with hand work to ensure the desired results. The cells in any row shall be filled in stages so that the depth of rock placed in any one cell does not exceed the depth of rock in any adjoining cell by more than 12 inches.

- The last layer of rock shall be uniformly overfilled 0.5-1 inch to allow for rock settlement. Lids shall be stretched tight over the rock fill using only approved lid closing tools. The use of crowbars or other single point leverage bars for lid closing is prohibited. The lid shall be stretched until it meets the perimeter edges of the front and end panels. The gablon lid shall then be secured to the sides, ends, and diaphragms with lacing wire wrapped with alternating single and double half-hitches in the mesh openings.
- Any damage to the wire or coatings during assembly, placement and filling shall be repaired promptly in accordance with the manufacturer's recommendations or replaced with undamaged gablon baskets.
- Mesh cutting and folding - Where size reduction, bends, and angles in the finished gablon lining is required per the plans, the mattress shall be cut, folded and fastened together to suit the site conditions. The mesh must be cleanly cut and surplus mesh either folded back or overlapped so that it can be securely fastened together with lacing wire or fasteners in the manner described in Notes 8 and 9.
- Backfill and compact areas below gablon mattresses to 95% density per MAG Section 301 with native channel material.
- New gablon mattresses shall match the existing top gablon basket elevation and follow the existing roadway / gablon basket profile.

DETAIL A

BOX 0 WASH EROSION PROTECTION
SHEET 2 OF 2

| | | | | |
|---|---------------|------|------|--|
| DESIGN | J. Papworth | DATE | 1/16 | PINAL COUNTY DEPARTMENT OF PUBLIC WORKS PROJECT NO. 60640578 DETAIL SHEET DETAIL A |
| DRAWN | D. Burmeister | DATE | 1/16 | |
| CHECKED | P. Balch | DATE | 1/16 | |
| | | | | |
| LOCATION: FLORENCE-KELVIN HIGHWAY, BOX 0 WASH EROSION PROTECTION DWG No. A-1.02 | | | | |